

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference		FOR FURTHER ACTION		See Form PCT/PEA/416
International application No. PCT/EP2005/001059		International filing date (day/month/year) 01.02.2005	Priority date (day/month/year) 27.02.2004	
International Patent Classification (IPC) or national classification and IPC A21D2/16, A21D13/00				
Applicant UNILEVER N.V.				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau) a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand 13.05.2005		Date of completion of this report 22.02.2006		
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016		Authorized Officer Koch, J Telephone No. +31 70 340-		



International application No.
PCT/EP2005/001059

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:

- ☐ international search (under Rules 12.3 and 23.1(b))
☐ publication of the international application (under Rule 12.4)
☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*;

1-15 filed with the demand

1-10 filed with the demand

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/EP2005/001059

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	10
	No: Claims	1-9
Inventive step (IS)	Yes: Claims	10
	No: Claims	1-9
Industrial applicability (IA)	Yes: Claims	1-10
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1. Reference is made to the following documents:

D1: WO 03/055324 A (RAISIO BENECOL OY ; WESTER INGMAR (FI); KUUSISTO PAEIVI (FI)) 10 July 2003 (2003-07-10)
D2: WO 02/082929 A (RAISIO BENECOL OY ; HOPIA ANU (FI); PALMU TAPIO (FI); POURU ANNIINA (F) 24 October 2002 (2002-10-24)
D3: US 2002/016317 A1 (BROCK MICHAEL HERBERT ET AL) 7 February 2002 (2002-02-07)
D4: EP-A-1 003 388 (DANISCO FINLAND OY) 31 May 2000 (2000-05-31)

2. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1-9 is not new in the sense of Article 33(2) PCT.

2.1. Document D1 discloses (cf. p. 21, l. 28-32; ex. 4,7,13; claims 1-5, 12, 16 & 17) compositions comprising plant sterol material, preferably a plant sterol fatty acid ester containing stanol fatty acid ester (cf. p. 21, last §) and an emulsifier such as lecithin, polysorbate or a stearyl lactylate, e.g. sodium stearyl lactylate (SSL).
The weight ratio of sterol fatty acid ester material to emulsifier compound is e.g. 150:100 = 1,5 : 1 (cf. e.g. example 4).
Blends of sterol fatty acid ester material and emulsifier are used as ingredient for bakery items and thus - implicitly - for dough for preparing these products.
The subject-matter of claims 1-4 and 6-9 is therefore not novel (Article 33(2) PCT).

2.2. Document D2 discloses (cf. ex. 1, 4 & 6) e.g. muffin and cakes based on a dough formula comprising flour (223 g), sterol fatty acid ester (25 g) and the emulsifier lecithin (8,5 g).
The subject-matter of claims 1, 6, 8 and 9 is therefore not novel (Article 33(2) PCT).

2.3. Document D3 discloses (cf. §§ 16, 18, 46, 93; ex. 1-3, 10, 11) peanut spread comprising e.g. 5,72 wt%. sterol fatty acid esters and e.g. 0,3 wt.% mono- and

diglycerides of palmitic and stearic acids (thus including glycerol monostearate "GMS"). The fatty acids for esterifying the sterol compound(s) can be derived from sources such as sunflower, safflower and coconut oil.

The subject-matter of claims 1-3 and 5-7 is therefore not novel (Article 33(2) PCT).

3. Document D4, which is considered to represent the most relevant state of the art, discloses (cf. claims 26 & 27) the use of plant sterols and/or stanols as anti-staling agents for bakery products, from which the subject-matter of claim 10 differs in that the bakery product comprises from 0,5 to 15% (wt.% on flour weight) of sterol and/or stanol fatty acid ester and from 0,1 to 1 (wt.% on flour weight) of a selected emulsifier.
 - 3.1. The subject-matter of claim 10 is therefore new (Article 33(2) PCT).
 - 3.2. The problem to be solved by the present invention may be regarded as the provision of an anti-staling agent for bakery products, which guarantees improved freshness due to (1.) improved resistance of the product towards staling, (2.) an increased volume of the baked product, and (3.) a lower firmness index (i.e. increased softness).
 - 3.3. The solution to this problem proposed in claim 10 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

The prior art does not contain any hint that the combined use of sterol and/or stanol fatty acid ester(s) and (a) selected emulsifier(s) as anti-staling agents could improve in a synergistic manner the properties of baked items with respect to product volume, freshness **and** softness.